CLAIMS:

1. An image processing apparatus, comprising:

a reflector for reflecting emitted light changing with a predetermined pattern;

5 an image capturing device for capturing an image of the reflected light reflected by the reflector;

a difference calculator for calculating a difference, among 2N consecutive frames, between a sum in recent N frames and a sum in other N frames for each pixel of the image of the reflected light, captured by the image capturing device;

10 a comparator for comparing the difference calculated by the difference calculator, with a predetermined threshold;

a signal processor for outputting one of a first signal and a second signal depending on a result of the comparison performed by the comparator;

a determination device for determining at a predetermined interval whether

15 the signal output from the signal processor is a predetermined signal; and

a detector for detecting an invader according to a result of the determination performed by the determination device.

2. An image processing apparatus as claimed in claim 1, further

20 comprising a floodlight for emitting the emitted light changing with the predetermined pattern.

3. An image processing apparatus as claimed in claim 1, wherein N=2.

25 4. An image processing apparatus as claimed in claim 3, wherein a period of the emitted light changing with the predetermined pattern is equal to a period of time of three frames in the image capturing device.

5. An image processing apparatus as claimed in claim 4, wherein the

30 determination device determines at an interval of six frames whether the signal output from the signal processor is a high-level signal.

6.   An image processing apparatus as claimed in claim 5, wherein the determination device changes the interval at which the determination device determines whether the signal output from the signal processor is a high-level

5   signal to any of five frames, six frames, and seven frames.

7.   A method for image processing, the method comprising the steps of:

reflecting emitted light changing with a predetermined pattern;

capturing an image of the reflected light which was reflected in the step of

10   reflecting;

calculating a difference among 2N consecutive frames, between a sum in recent N frames and a sum in other N frames for each pixel of the image of the reflected light which was captured in the step of capturing;

comparing the difference calculated in the step of calculating with a

15   predetermined threshold; .

outputting one of a first signal and a second signal depending on a result of the comparison performed in the step of comparing;

determining at a predetermined interval whether the signal output in the step of outputting is a predetermined signal; and

20   detecting an invader according to a result of the step of determining.

8.   A computer readable program recorded on a recording medium, the program comprising:

a difference calculation step of calculating a difference, among 2N

25   consecutive frames, between a sum in recent N frames and a sum in other N frames for each pixel of a captured image of reflected light;

a comparison step of comparing the difference calculated in the difference calculation step with a predetermined threshold;

a signal processing step of outputting one of a first signal and a second

30   signal depending on a result of the comparison performed in the comparison step;

a determination step of determining at a predetermined interval whether the signal output in the signal processing step is a predetermined signal; and

a detection step of detecting an invader according to a result of the determination performed in the determination step.

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9.   A process of computer executed processing based on a computer readable program, the process comprising:

a difference calculation step of calculating a difference, among 2N consecutive frames, between a sum in recent N frames and a sum in other N frames

10   for each pixel of a captured image of reflected light;

a comparison step of comparing the difference calculated in the difference calculation step with a predetermined threshold;

a signal processing step of outputting one of a first signal and a second signal depending on a result of the comparison performed in the comparison step;

15   a determination step of determining at a predetermined interval whether the signal output in the signal processing step is a predetermined signal; and

a detection step of detecting an invader according to a result of the determination performed in the determination step.